CAD-805 Anniversary Edition

Mono Power Amplifier

Setup and Operation Manual

NOTE: Before installing your new CAD-805 Anniversary Edition power amplifiers, please read this manual carefully as it will inform you of the product specifications, proper installation and operation procedures. Included in this manual are guidelines on how to properly install and/or bias the tubes, adjust Cat Eye tube intensity and to care for your new CAD-805 Anniversary Edition power amplifiers.

Congratulations new CAD-805 Anniversary Editions Owner:

After ten years of continuous production we proudly announce the CAD-805 Anniversary Edition! Operating the amplifier is a simple procedure. Each unit is designed for long term stability in virtually any home operating situation. Note that if the unit is operated outside the parameters outlined in this owner's manual, damage may result. Please read this manual carefully before operating your new CAD-805 Anniversary Edition power amplifier.

Cautionary Terms

When the following cautionary terms are used in this manual, these definitions apply:

WARNING! Electrical hazard! Misuse or failure to follow instructions properly may result in personal injury or death!

CAUTION: No risk of personal injury; however, misuse or failure to follow instructions may result in damage to equipment.

NOTE: No risk of personal injury or equipment damage; however, misuse or failure to follow instructions may prevent proper performance equipment

Specifications:

POWER OUTPUT:	50 Watts 'Class A' operation mode
FEEDBACK:	0 to 10 dB, continuously variable control
FREQUENCY RESPONSE:	20 to 20 kHz ± 0.5 dB
DIMENSIONS:	10" H x 12-1/4" W x 24" D (25.4 x 31.2 x 61 cm)
AC POWER REQUIREMENTS:	100, 110, 117, 220, 240, / 50-60 Hz, set by market
NET WEIGHT:	85 lb. (38.6 kg.)
POWER CONSUMPTION:	230 watts - OPERATE, 76 watts - STANDBY
SHIPPING WEIGHT:	105 lb. (47.7 kg.)
INPUT IMPEDANCE:	150,000 ohms (150 kg.)
OUTPUT IMPEDANCE:	4, 8 and 16 ohm speaker connection terminals
NOISE:	> 80 dB below rated output
SENSITIVITY:	1.0 Volt @ zero feedback for full output
COUPLING CAPACITORS:	Oil filled capacitors
POWER SUPPLY CAPACITORS:	4-1500 □Fd @ 450V
TRANSFORMERS:	1- EI Laminated core power transformer
	1- special air-gap output transformer
	200% duty cycle on all transformers
TUBE COMPLIMENT:	1-1629/6U5 'Cat Eye' tube
In each amplifier chassis	2-6SN7 input tubes
	1-300B driver tube
	1-845 output tube *or* (Please choose 845 *or* 211 during install)
	1-211 output tube (Please choose 211 *or* 845 during install)
WARM-UP TIME:	5 minutes, after initial break in period
BREAK-IN PERIOD:	100 hours of music playing time
FINISH:	Jaguar 'Anthracite Black' chassis
AC CORD:	3 conductor cord, detachable

Specifications are subject to change or improvement without notice or obligation.

Front Panel Features

CAT EYE TUBE: Indicates approximate power output level. When the eye is completely closed the amplifier is at full power output.

Top Panel Features

OFF-ON TOGGLE SWITCH: Turns AC power on in the rear position. The output tube will not light at this point.

STANDBY SWITCH: Turns the filament of the output tube on in the rear position.

TUBE SELECTOR SWITCH: Set either to 211 or 845 before installing selected output tube.

FEEDBACK LEVEL: Adjusts the level of feedback from 0 to 10 dB

Rear Apron Features

INPUT: Signal input connection via shielded RCA interconnect cable

OUTPUT: Three 5-way binding posts provide output to the speaker system (4, 8 or 16 ohm connections).

FUSE: **AC power fuse. Never replace with any other value than 3 AMP SLOW BLOW FUSE! 250 VOLT!**

TUBE FUSE: **Never replace with any other fuse than _ amp FAST BLOW FUSE!**

Installation

This section describes the unpacking and installation procedures for your new amplifier.

Unpacking

All shipping containers have been specially designed to protect their contents and special care has been taken to prevent damage under normal shipping conditions. Mishandling should be evident upon inspection of the shipping container. If shipping damage is found after visual inspection, take care not to destroy the evidence. If necessary, document the damage with photographs and contact the transport carrier immediately. Carefully remove your new CAD-805 Anniversary Edition from its packing carton and examine it closely for signs of shipping damage. It is recommended to save all original packing cartons and crates to protect your amplifier from damage should you wish to store it or ship it for after-sales service.

Warranty Card

IN THE USA: If you are the original purchaser of a new unit from an *AUTHORIZED CARY AUDIO DESIGN DEALER*, please fill out the enclosed warranty registration card and return it within 15 days of purchase *or* register online at www.caryaudio.com. Cary Audio Design suggests that you keep your original packing cartons in case you need to ship the amps. Warranty restrictions apply. Consult the warranty section of this manual for details. Keep a copy of your original sales receipt for proof of purchase if you need service during the warranty period; we will require a copy to validate the warranty. The warranty is for the original purchaser only and does not transfer to any subsequent owner.

OUTSIDE THE USA: Your local Authorized Cary Audio Design Distributor will make his own warranty policy for your country. Please check with them for the terms of warranty for your new amplifier.

Physical Placement

The CAD-805 Anniversary Edition is designed for use in homes. It must be protected from the elements and temperature extremes. For example, avoid placing the unit in extremely hot locations such as near radiators or other heating units. Its location among the user's audio components is not critical; however, certain precautions must be taken. Avoid moisture, direct sunlight, and dusty areas.

Power Requirements

The CAD-805 Anniversary Edition is designed to operate from house current AC mains. The design voltage is 117 Volts AC at 50/60Hz (Foreign units 234 Volts AC at 50/60Hz).

Speaker Cables

The speaker cables from the output posts of the CAD-805 Anniversary Edition to the speaker system can be any length that your setup requires. Select speaker cables of sufficient size to preserve the outstanding performance capabilities and sound quality of your new power amplifiers.

Heavy duty #14 gauge wire is suitable for distances up to 15 feet; #10 gauge is good for 25-30 feet. Most audio dealers have high performance speaker cable in stock for this purpose. We strongly urge you to try several types to find the best ones for your combination of components and speakers.

Interconnect Cables

Signal input connection is made via the RCA input jack on the rear of the amplifier located next to the output binding posts. The input interconnect cables from the output of the preamplifier can be any length your installation requires. A shielded high quality interconnect cable is important to reduce chances for hum or interference. Ask your Authorized Cary Audio Design audio dealer for advice.

Operation

Your new amplifier is ready for operation after the speaker cables, interconnect cables and the tubes have been installed. Choose either the 211 or the 845 output tube with the top panel tube selector switch, according to the actual one installed. Only change this switch setting with the amplifier OFF.

_ WARNING! _

Page 8 shows correct tube placement positions, 300B tube bias settings and 'Cat Eye' tube brightness adjustment. Page 9 shows 300B tube pin configuration. **FAILURE TO INSTALL THE TUBES CORRECTLY WILL DAMAGE THE UNIT.** Watch the tube pins carefully on the 300B tube during installation as it is possible to force the tube to plug in 'wrong' during installation. **The 300B tube has no 'safety key' center pin on the tube to prevent incorrect installation.** It has two large pins and two slightly smaller pins. Please look carefully at the tube pins and the tube socket holes to note the two different size connections prior to installation. **Incorrectly plugging in the 300B driver tube will possibly damage the amplifier and is not covered by the manufacturers warranty.**

_ WARNING! _

Off-On Power Toggle Switch

Push the AC toggle switch toward the rear, to the "ON" position. The 6SN7 input tubes, 1629 Cat Eye tube and the 300B driver tube will light up in this setting.

Standby Toggle Switch

Push the toggle switch toward the rear of the unit to operate. The installed output tube will light up.

'Break In' Period

The tubes, capacitors and the output transformers take approximately 100 hours of music playing to fully settle in for peak performance. Small imperfections in the tube surfaces will 'boil off' during the break in period as well. The amplifier will sound good right out of the box but it will improve as break in occurs. After the first couple of hours you will notice increased depth and tighter bass. This break in period is true with most high performance audio amplifiers.

Cleaning and Care of Finish

The chassis may be cleaned with a soft towel and Windex ® or a similar gentle window cleaner. The frequency of cleaning will be governed by operating environmental cleanliness. Spray the cleaner on the towel, not on the amplifier! Avoid abrasive cleaners! Feather dusters are good for cleaning the amp.

Replacing Vacuum Tubes

If it becomes necessary to replace the tubes, the same brand as installed new should be used. A complete new tube kit is available from Cary Audio Design. Although useful tube life varies depending on the nature and degree of use, under normal home use, the 845 or the 211 output tube and the 300B driver tube should last many years in the CAD-805. The 6SN7 input tubes should last even longer.

NOTE: Any current production or New Old Stock (NOS) types of 211, 845, 6SN7 or 300B tubes will work fine in the CAD-805 Anniversary Edition amplifier. The voltages are fine for all available types.

WARNING!

Make sure the amplifier is unplugged 30 minutes from the AC mains before replacing the tubes to avoid risk of shock and high heat from the 211 or 845 tube.

Factory Service

Careful consideration has been given to the design of your CAD-805 Anniversary Edition to keep maintenance problems to a minimum; however, it is possible that some problems may arise which cannot be cured by tube substitution. If after reading the Troubleshooting Guide on page 7 you still have a problem, contact our Customer Service Department to describe your problem in detail. **Do not return the amplifier to the factory without a Return Authorization Number from the Customer Service Department.** Cary Audio Design will assume no responsibility if the transportation company refuses to pay damage claim due to your improper packing or lack of insurance should the unit be lost in shipment from you to us.

Non-Warranty Repairs

Cary Audio Design will provide repair service for its products charging on a time and expense basis for the repairs. Contact Cary Audio Design at 919-355-0010 from 1 to 5 PM East coast time for an RMA number so that your unit may be serviced.

WARNING!

Make no attempt to put the CAD-805 in service outside of the cabinet or with the cabinet open! Contact with the high voltages found inside the unit can be fatal! Remove the AC power plug from the wall and allow 30 minutes for the high voltage capacitors to discharge through bleeder resistors before attempting to change the tubes or to clean the inside the amplifier.

CAUTION:

Never remove or insert the AC plug when the unit is on or the AC power switch is in the "ON" position. Obstruction of the top portion of the amplifier will result in the tubes overheating.

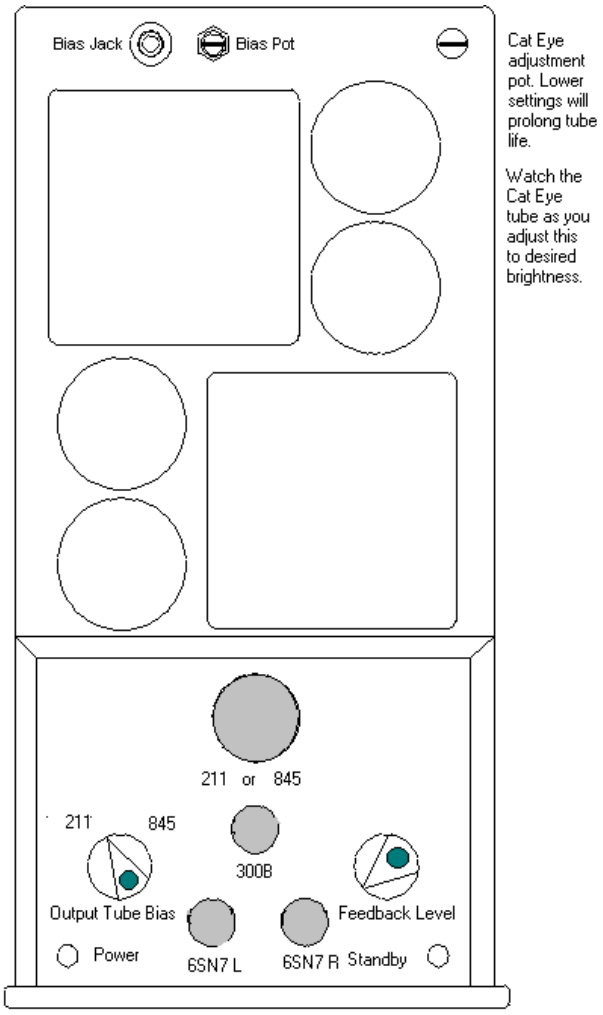
CAD-805 Anniversary Edition Trouble Shooting Guide

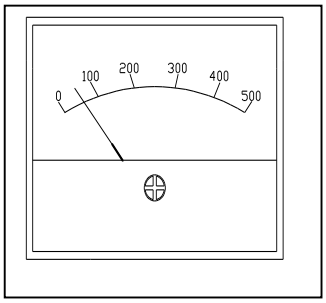
SYMPTOM	CAUSE	REMEDY
Hum or "Buzzing" in speakers	Ground loop	Install 2-pin adapter on AC cord to float the ground.
	-300B tube with high plate current too high	Check bias of 300B. If high, readjust to proper bias setting of 60 mA.
Intermittent or poor connection of interconnect		-Replace bad interconnect cable
"Popping" or "Spitting" noise	Noisy tube	-If noise is in one channel, through the speaker swap one section of tubes at a time until the noise swaps channels. Replace the noisy tube.
Check bias of output tubes.	If high or fluctuating rapidly, replace output tube.	
AC fuse blows	-Line voltage surge	-Replace fuse.
Tube fuse blows	-Shorted tube (300B & 845/211 have separate fuses.)	-Replace tube.

Cary Audio Design
1020 Goodworth Drive
Apex, North Carolina 27539

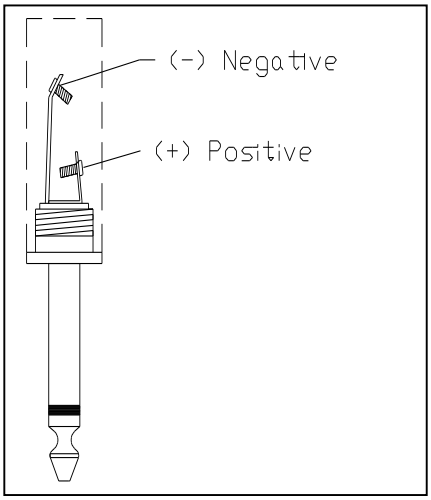
www.caryaudio.com
info@caryaudio.com

Tel: 919-355-0010
Fax: 919-355-0013
Technical Service: 1 - 5 PM Eastern time, Monday -Friday





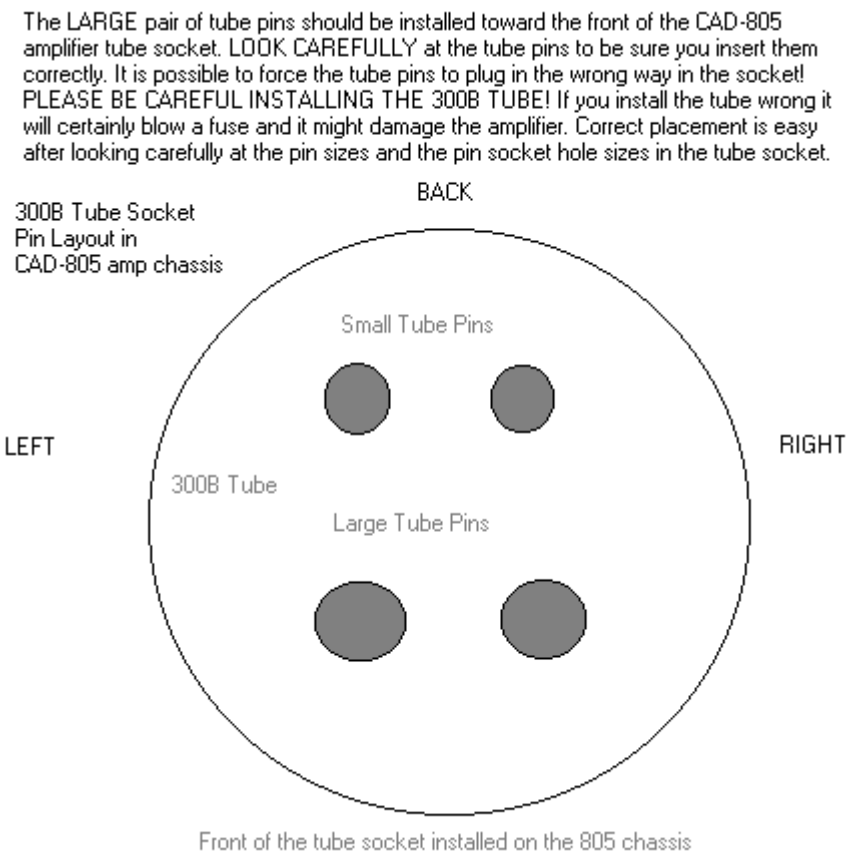
Set the bias to 60 milliamperes, dc ampere scale.



_" bias plug

WITH THE AMP OFF: Insert the _" bias meter plug into the bias jack on the back of the amplifier chassis. Connect the bias cable red alligator clip to the positive (+) connection on your meter. Connect the bias cable black alligator clip to the negative (-) connection on your meter. Check the 300B tube bias current reading and adjust for a 60 mA reading on the Volt Ohm Meter (VOM) or DC current meter if the reading is different than 60 mA. Check and readjust to 60 mA again after the CAD-805 amplifier is warmed up for 10 minutes. Remove the _" plug from the bias jack and enjoy the music!

Note: Bias is factory preset to 60 mA. Bias should be reset when installing a replacement


The LARGE pair of tube pins should be installed toward the front of the CAD-805 amplifier tube socket. LOOK CAREFULLY at the tube pins to be sure you insert them correctly. It is possible to force the tube pins to plug in the wrong way in the socket! PLEASE BE CAREFUL INSTALLING THE 300B TUBE! If you install the tube wrong it will certainly blow a fuse and it might damage the amplifier. Correct placement is easy after looking carefully at the pin sizes and the pin socket hole sizes in the tube socket.
BACK
300B Tube Socket
Pin Layout in
CAD-805 amp chassis
Small Tube Pins
LEFT
RIGHT
300B Tube
Large Tube Pins
Front of the tube socket installed on the 805 chassis

300B Tube pin layout for CAD 805 Anniversary Edition

The LARGE pair of 300B tube pins should be installed toward the front of the CAD-805 Anniversary Edition amplifier tube socket. **LOOK CAREFULLY** at the tube pins to be sure that you insert them correctly. It is possible to force the tube pins into the socket the wrong way if you are not careful! If you install the tube wrong you will probably damage the amplifier and the tube. This damage will not be covered by the manufacturers warranty for a new amplifier. If you have any doubts about this, have the 300B tube installed by your dealer. If you will look carefully at the pins and install the large pins to the front of the socket all will be fine! **These 300B tube pin installation instructions are valid for the 805 Anniversary Edition only.**

Earlier versions of the 805 amplifier had the 300B tube installed with the pins in a different position. Look carefully at the tube pins and the socket holes before installing the 300B tube in earlier model 805 amplifiers.